

vitamin D fortification of breakfast cereals (BC) on vitamin D status of Australian and New Zealand (ANZ) populations.

**Methods:** Vitamin D intakes from BC containing 5 µg vitamin D/serve were calculated using ANZ nutrition surveys under several modelling scenarios. Increments in intakes were converted to increments in serum 25OHD using a reported dose-response relationship and then added to population distributions of serum 25OHD from national surveys. The proportion of the population with low and high serum 25OHD was calculated before and after fortification for different BC consumption levels.

**Results:** Consumption of vitamin D-fortified BC under all scenarios predicted annual mean serum 25OHD concentrations which were within the physiological range. Currently, about 13% of Australians and 21% of New Zealanders have low vitamin D status using 40 nM as a serum 25OHD cut-point. Consumption of vitamin D-fortified BC would decrease this prevalence to about 1.5%. Currently, about 1.4% of the population have high serum 25OHD using a conservative 25OHD cut-point (125 nM), and this prevalence increased to 5.5–7.5% for the high BC consumers, or “worst-case” scenario.

**Conclusions:** This study showed that BC fortification at the modelled vitamin D amounts would potentially increase the vitamin D status of individuals whose status is inadequate. Since usual BC consumption would be much less than the modelled worst-case scenario, consumers are unlikely to be at risk of exceeding safe vitamin D intakes.

**Funding source(s):** N/A.

#### VITAMIN B<sub>12</sub> STATUS IS LOWER IN ORAL CONTRACEPTIVE PILL USERS COMPARED TO NON-USERS

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**Background/Aims:** Vitamin B<sub>12</sub> deficiency has potentially serious lifelong consequences. The aim of this study is to explore the associations between markers of vitamin B<sub>12</sub> status and other biochemical, dietary and physical measures.

**Methods:** Three data sets composed of young omnivore women ( $n = 65$ ; age  $24.5 \pm 4.4$  y; mean  $\pm$  SD), randomly selected young women ( $n = 305$ ; age  $22.5 \pm 3.9$  y) and elderly women ( $n = 44$ ; age  $80.5 \pm 7.6$  y) were examined. Associations between vitamin B<sub>12</sub> biomarkers and other selected biomarkers of nutritional status (i.e. serum folate, erythrocyte folate), lifestyle factors such as; dietary intake, smoking, alcohol intake, oral contraceptive pill (OCP) use (in the non-elderly groups), and other factors such as BMI and age were examined using mixed effects regression, accounting for study clusters.

**Results:** Serum vitamin B<sub>12</sub> concentration (pmol/L) was related positively to both serum folate (nmol/L;  $\beta = 0.018$  95%CI: 0.009–0.026,  $p < 0.001$ ) and erythrocyte folate (nmol/L;  $\beta = 0.456$  95%CI: 0.164–0.747,  $p < 0.01$ ). Younger women who used the OCP had serum vitamin B<sub>12</sub> concentrations that were 72.3 (SE = 12.4) pmol/L lower than non-users ( $p < 0.001$ ). Vitamin B<sub>12</sub> was marginally associated with the intakes of both protein ( $p < 0.05$ ) and alcohol ( $p < 0.001$ ). Serum vitamin B<sub>12</sub> concentration was not related to age, smoking status or iron status.

**Conclusions:** The association between vitamin B<sub>12</sub> and folate status may be indicative of a higher diet quality, but requires further investigation. With vitamin B<sub>12</sub> deficiency being linked with increased risk of neural tube defect, the use of the OCP may pose an increased risk in women of reproductive age.

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#### CONCURRENT SESSION 9: LIFECYCLE. DIETARY MODIFICATIONS OF THE MATERNAL DIET AMONG BREASTFEEDING MOTHERS

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**Background/Aims:** Breastfeeding mothers tend to modify their habitual

diet and avoid certain foods. The reasons for this are not fully understood. The aim of this survey was to explore the motives and common dietary practices among breastfeeding mothers and if nutritional intake is compromised.

**Methods:** An on-line exploratory survey, invited women who had breastfed to participate.

**Results:** Of the 1,293 respondents, 98% completed the survey and 77% mothers modified their usual diet. The most common reasons were ‘baby was unsettled’ (31%), ‘baby had lots of wind/gas’ (24%), ‘baby had reflux’ (17%) and ‘baby had colic’ (11%). The most common modifications were avoidance of alcohol (79%), coffee (44%), cow’s milk (24%), milk chocolate (22%), chilli (22%) and cabbage and onion (each 20%). Information was sourced from the internet (44%), maternal and child health nurses (40%), the Australian Breastfeeding Association (34%). Sourcing information from paediatricians was less common (10%) and 89% of respondents had never seen a dietitian. Thirty-three percent removed dairy, but did not replace it with other calcium-rich foods nor did they take a calcium supplement. Thirty-two percent that modified their diet did not take a suggested breastfeeding multi-vitamin for when the nutrition guidelines are difficult to meet.

**Conclusions:** Dietary modification among breastfeeding mothers is common practice. The most reported reason was due to an ‘unsettled baby’. The majority of information is sourced from the internet and not from experts in nutrition suggesting this group may be at risk of nutritional inadequacies.

**Funding source(s):** N/A.

#### ASSOCIATIONS BETWEEN DIETARY INTAKE, DIET QUALITY AND DEPRESSIVE SYMPTOMS IN FIRST-TIME MOTHERS

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**Background/Aims:** Diet may be associated with depressive symptoms. The objective of this study was to determine the association between diet and depressive symptoms in first-time mothers.

**Methods:** Cross-sectional, baseline data (3 months postpartum) were obtained from the Melbourne INFANT (Infant Feeding, Activity and Nutrition Trial) Extend Program. Participants included first-time mothers aged 19–45 years from Victoria, Australia ( $n = 457$ ). Diet over the past year was assessed via a validated, self-administered 137-item food frequency questionnaire. Adherence to the 2013 Australian Dietary Guidelines was assessed using a previously developed dietary guideline index (DGI) as a measure of diet quality. Depressive symptoms were determined using the Centre for Epidemiologic Studies Depression Scale (CES-D 10). Relationships between fruit and vegetable intake (serves per day), frequency of fish intake and diet quality and depressive symptoms were investigated using linear regression adjusted for covariates (age, socioeconomic position, smoking status, physical activity, television viewing time, sleep quality, and BMI).

**Results:** Higher diet quality, as indicated by a higher score on the DGI, was associated with lower depressive symptoms after adjusting for covariates ( $\beta = -0.034$ ; 95% CI =  $-0.056, -0.012$ ). There were no significant associations between fruit, vegetable or fish intake and depressive symptoms.

**Conclusions:** Increased adherence to the Australian Dietary Guidelines was associated with lower depressive symptoms among Australian first-time mothers. These findings may be used to inform future public health nutrition initiatives among this target group.

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#### ANTENATAL BREASTFEEDING CONFIDENCE AND BREASTFEEDING DURATION IN OBESE AND NON-OBESE PRIMIPAROUS AUSTRALIAN WOMEN

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**Background/Aims:** The aim of this study is to compare breastfeeding